Mississippi River

Characteristics

The drainage basin (watershed) of the Mississippi River embraces two-thirds of the continental United States (1.2 million square miles). Its headwaters form at Lake Itasca in Minnesota. From there it stretches 2,350 miles to the Gulf of Mexico. It was initially formed by meltwaters from the vast glaciers that covered North America during the past hundreds of thousands of years. This produced the two- to six-mile wide Mississippi River Valley. Bluffs rise 400 to 600 feet above the river valley along Iowa's northern border, but they decrease in height as the river flows southward. The upper reaches of the Mississippi bordering Iowa include numerous side channels, chutes, sloughs, and islands. The river substrate is mostly sand and silt with a few bedrock outcrops such as the Rock Island and Des Moines (near Keokuk) rapids. The water in the Mississippi can be quite clear at times, but is very turbid (muddy) during periods of high runoff.

The Mississippi River has been greatly modified for navigational purposes. In the late 1800s the U.S. Army Corps of Engineers began building wing dams and closing dams to funnel water flow, protecting shorelines, and dredging the river to create a 4 1/2-foot navigation channel. The navigation channel depth was increased to six feet in 1907. Thousands of wing dams and hundreds of closing dams were built by 1930. In the 1930s Congress authorized the construction of the present locks and dams, which created a series of lake-like pools between St. Louis and Minneapolis and allowed for a nine-foot navigation channel. Twenty-nine locks and dams were constructed; 11 are located along Iowa (nine through 19). This created many backwater areas and changed available habitat in the river. The dams also trapped sediment so dredging continues to maintain the navigation channel. Many backwaters have become shallower as they filled with sediment.
There are a number of other factors impacting the Mississippi. Much of its floodplain has been converted from bottomland timber to agricultural land or developed for industrial or commercial use. Millions of people recreate on the Upper Mississippi River each year. It also supports an important commercial harvest of fish - $2.5 million annually along the Iowa border alone. Mussels historically were harvested for the production of buttons and more recently for the production of cultured pearls. The Mississippi also provides drinking water, water for industry and agriculture, and power for millions along its shores.

Two national refuges and several state and local areas protect portions of habitat along the upper Mississippi River.

Recreation

Boating, canoeing, fishing, hiking, hunting, swimming, trapping, water skiing, camping, biking, wildlife observation, and/or photography

What Lives Here?

The main channel, backwaters, islands, and flood plains of the Mississippi River support a very diverse array of organisms from microscopic plankton, to herbaceous and woody plants, to a host of animal species. Forty percent of North America's duck, geese, swan, and wading birds migrate through the Mississippi flyway, as do bald eagles, hawks, finches, warblers, and many other birds. About 100 species of fish inhabit the Iowa reach of the river including favorite game fish species such as walleye, sauger, largemouth bass, northern pike, catfish, bluegill, crappie, and freshwater drum. Small and large mammals, reptiles, and amphibians live in the river and associated floodplain. Freshwater mussels still are found in the river, but most populations have been greatly decimated during the past century as mussel beds were covered with silt. Remaining mussels now face additional problems as they are covered by the exotic zebra mussel.

Organisms found in this CD:
alligator snapping turtle, American eel, American lotus, American toad, anabaena, aquatic sowbug, Asian clam, backswimmer, bald eagle, bank swallow, beaver, belted kingfisher, big brown bat, bigmouth buffalo, bigmouth shiner, black bullhead, black crappie, black-crowned night-heron, black sandshell, black willow, Blanding's turtle, blue catfish, blue flag iris, bluegill, blue skullcap, blue sucker, blue-winged teal, boneset, bowfin, broadleaf arrowhead, brook silverside, bullfrog, bulrush, burbot, butterfly mussel, caddisfly, cardinal flower, cattle egret, central mudminnow, central newt, channel catfish, chara, chlorella, chestnut lamprey, clearweed, cliff swallow, common carp, common cattail, common shiner, coontail, Cope's gray treefrog, copepod, copperhead, cottonwood, crane fly, crawling water beetle, creek chub, creek heelsplitter, cricket frog, curlyleaf pondweed, damselfly, deertoe, deer fly, devil crayfish, diamondback water snake, diatoms, double-crested cormorant, dragonfly, duckweeds, earthworm, eastern hognose snake, eastern pipistrelle, emerald shiner,

euglena, evening bat, false nettle, fathead minnow, fatmucket, fawnsfoot, fingernailclams and peaclams, flat floater, flathead catfish, fisher spider, fog fruit, Fowler's toad, fox snake, fragile papershell, freshwater drum, freshwater shrimp, freshwater sponge, giant floater, giant water bug, gizzard shad, golden redhorse, golden shiner, goldfish, gray treefrog, great blue heron, great blue lobelia, great egret, green frog, green heron, green sunfish, hickorynut, Higgins eye, hooded merganser, horse fly, horsetail, hydra, Indiana bat, killdeer, largemouth bass, leafy pondweed, least weasel, leech, left-handed snails, lilliput, little brown bat , longnose gar, long-tailed weasel, mallard, map turtle, mapleleaf, mayfly, microcystis, midge, mink, monkeyface, mosquito, mucket, mudpuppy, muskrat, northern hog sucker, northern leopard frog, northern pike, northern rock bass, northern rough-winged swallow, northern water snake, Norway rat, operculate snails, orangespotted sunfish, osprey, paddlefish, paper pondshell, pied-billed grebe, pickerel frog, pimpleback, pink heelsplitter, pink papershell, pistolgrip, plain pocketbook, plains leopard frog, plains garter snake, planaria, prairie crayfish, predaceous diving beetle, prothonotary warbler, protozoa, pumpkinseed, purple loosestrife, quillback, red-eared turtle, redfin shiner, red-sided and eastern garter snakes, red-winged blackbird, right-handed snails, ring-billed gull, river carpsucker, river darter, river otter, rock-pocketbook, rusty crayfish, sago pondweed, sandbar willow, sauger, scud, shortnose gar, shovelnose sturgeon, silver-haired bat, silver maple, smallmouth bass, smallmouth buffalo, smooth softshell turtle, snapping turtle, southern leopard frog, southern redbelly dace, spiny softshell, spirogyra, spring peeper, spottail shiner, spotted sandpiper, spotted sucker, spotted touch-me-not, squawfoot, stinkpot, stonecat, stonefly, straw-colored nutsedge, swamp sparrow, sycamore, tadpole madtom, threehorn wartyback, threeridge, tiger salamander, toad bug, tree swallow, trout-perch, virile crayfish, volvox, Wabash pigtoe, walleye, warmouth, wartyback, washboard, water boatman, water flea, water mites, water parsnip, water pepper, water scavenger beetle, water scorpion, water smartweed, water strider, watermeal, western chorus frog, western painted turtle, whirligig beetle, white amur, white bass, white crappie, white heelsplitter, white river crayfish, white sucker, wild millet, wood duck, yellowbelly water snake, yellow bass, yellow bullhead, yellow-crowned night-heron, yellow mud turtle, yellow perch, yellow sandshell, yellow warbler, zebra mussel

Locations in Iowa

The Mississippi River forms Iowa's eastern boundary.

Bibliography

Iowa Department of Natural Resources. 2001. *Biodiversity of Iowa: Aquatic Habitats* CD-ROM.